IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
COLUMBIA DIVISION

THE SOUTH CAROLINA STATE CONFERENCE OF THE NAACP, *et al.*, Plaintiffs, v. THOMAS C. ALEXANDER, *et al.*, Defendants.	Case No. 3:21-cv-03302-MGL-TJH-RMG **SENATE DEFENDANTS' & HOUSE DEFENDANTS' MOTION IN LIMINE TO EXCLUDE THE TESTIMONY OF PLAINTIFFS' PUTATIVE EXPERT KOSUKE IMAI**

The Senate Defendants and the House Defendants[1] respectfully move to exclude the

testimony of Plaintiffs' putative expert Kosuke Imai on the ground that it fails to meet the

demanding standards established by Federal Rule of Evidence 702 and *Daubert v. Merrell Dow*

Pharmaceuticals., Inc., 509 U.S. 579 (1993). Dr. Imai lacks a "reliable foundation" for his

proposed testimony regarding the Congressional Plan that Plaintiffs challenge in this action.

Daubert, 509 U.S. at 597. Indeed, Dr. Imai committed the same fundamental error as the putative

expert that this Court rejected ten years ago in *Backus v. South Carolina*: by his own admission,

he "failed to consider all the traditional race-neutral principles that guide redistricting in South

Carolina." *Backus v. South Carolina*, 857 F. Supp. 2d 553, 563 (D.S.C.), *aff'd*, 568 U.S. 801

(2012). Thus, his proposed testimony and evidence are "problematic," "incomplete," and

"unconvincing," and he is "unable to provide the Court a reliable opinion that the General

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[1] The Senate Defendants are Thomas C. Alexander, in his official capacity as President of the Senate, and Luke A. Rankin, in his official capacity as Chairman of the Senate Judiciary Committee. The House Defendants are James H. Lucas, in his official capacity as Speaker of the House of Representatives, Chris Murphy, in his official capacity as Chairman of the House of Representatives Judiciary Committee, and Wallace H. Jordan, in his official capacity as Chairman of the House of Representatives Elections Law Subcommittee. On May 12, 2022, James H. Lucas stepped down as Speaker of the South Carolina House of Representatives. The current Speaker of the House is Representative G. Murrell Smith, Jr.

Assembly subordinated traditional race-neutral principles to race." *Id.* at 562–63. The Court should exclude Dr. Imai's proposed testimony and evidence for this reason alone. *See id.*

The reasons to exclude Dr. Imai's proposed testimony and evidence do not end there. Even when Dr. Imai did consider relevant race-neutral districting principles, he did not utilize a "reliable" method to analyze them. *Daubert*, 509 U.S. at 597. In fact, Dr. Imai has stated in a peer-reviewed article that "[u]nfortunately, despite the growing popularity of simulation methods in recent redistricting cases, there exists little empirical evidence that these methods can in practice generate a representative sample of all possible redistricting maps under the statutory guidelines and requirements." B. Fifield, K. Imai, J. Kawahara, and C. Tenney, "The Essential Role of Empirical Validation in Legislative Redistricting Simulation," Statistics & Public Policy 7:1, 67 (2020) (Ex. 6). According to Dr. Imai, without such evidence, "we cannot rule out the possibility that the comparison of a particular plan against sampled plans yields misleading conclusions about gerrymandering." *Id.* at 53.

In all events, even if Dr. Imai's simulation analysis can survive his own criticism, he compared the Congressional Plan to racially gerrymandered sample plans that never could have been enacted by the General Assembly—hardly a valid standard of comparison. And, in all events, Dr. Imai's testimony is not "relevant to the task at hand" because it at most pertains to hypothetical circumstances that do not even remotely resemble the actual circumstances surrounding the enactment of the Congressional Plan—the "pertinent inquiry" here. *Id.* at 597. The Court should exclude Dr. Imai's testimony and evidence.[2]

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[2] Because this motion contains a full explanation, a supporting memorandum would serve no useful purpose. *See* Local Civil Rule 7.04 (D.S.C.). Further, after consultation, Plaintiffs declined to withdraw Dr. Imai as an expert. *See* Local Civil Rule 7.02 (D.S.C.).

BACKGROUND

Dr. Imai is a government and statistics professor at Harvard University who filed a report in this case. *See* Imai Rep. 3 (Ex. 1). Plaintiffs have proffered Dr. Imai as an expert and intend to call him as a witness at trial. Dkt. No. 331 at 1.

Dr. Imai seeks to offer testimony and evidence regarding his algorithmic "ensemble method" (or "simulation analysis") for analyzing the Congressional Plan. Imai Rep. 3–4, 7 (Ex. 1). Through the ensemble method, Dr. Imai created large sets of sample plans for comparison with the Congressional Plan in a purported effort to "isolate the role of race" in the Congressional Plan. Imai Tr. 105:25 (Ex. 2); *see* Imai Rep. 3–4 (Ex. 1). Based on his ensemble method, Dr. Imai seeks to opine that "race played a significant role" in the Congressional Plan "beyond the purpose of complying with the [Voting Rights Act] and other traditional redistricting criteria, including those specified in the South Carolina guidelines." Imai Rep. at 4–5 (Ex. 1).

The "ensemble method" involved Dr. Imai programming an algorithm to generate thousands of "ensemble plans." But he programmed the algorithm to consider only certain traditional race-neutral districting principles and not others. In particular, for his "race-blind local simulation analysis" on the boundary between Districts 1 and 6, he programmed the algorithm to maintain contiguity and population balance, avoid incumbent pairing, ensure that all plans are on average as compact as the Congressional Plan, and ensure that the numbers of split counties and municipalities is on average no greater than the corresponding numbers under the Congressional Plan. *Id.* at 8–9. For his statewide simulation, Dr. Imai maintained the same controls and added one additional constraint: he required the black voting-age population ("BVAP") in District 6 to be 45–50%. *Id.* at 9–10. Additionally, for each of his simulations, Dr. Imai assigned various "strengths" to the criteria above; these strengths determined the likelihood that the algorithm would

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generate "sample plans that conform to the selected criterion." *Id.* at 25. According to Dr. Imai,

his analysis "demonstrates that race played a significant role" in the Congressional Plan. *Id.* at 4.

Dr. Imai admitted, however, that he did not program the algorithm to consider a range of

other traditional race-neutral criteria. Specifically, Dr. Imai admitted that his analysis does not

consider the following traditional race-neutral principles used in redistricting in South Carolina:

- Preserving the cores of districts;

- Avoiding voting district splits;

- Preserving communities of interest;

- Keeping incumbents with their core constituents; and

- Partisan performance and politics.

Imai Tr. 103:20–106:22, 155:9–10, 181:16–18, 182:25–183:15 (Ex. 2); Imai Rep. 9–10 (Ex. 1);

see also Backus, 857 F. Supp. 2d at 562–63 (identifying traditional districting principles); *Colleton*

Cnty. Council v. McConnell, 201 F. Supp. 2d 618, 647, 649 (D.S.C. 2002) (three-judge court)

(same); Dkt. 323 at 12 (same). In fact, Dr. Imai admitted in his deposition that he conducted an

iteration of his simulation analysis that included a control for the Benchmark Plan (and, thus,

attempted to control for preservation of cores) but that he omitted that iteration of his analysis from

his final report. *See* Imai Tr. 47:21–64:21 (Ex. 2).

Even with respect to the principles he did consider, Dr. Imai acknowledged that he did not

apply those principles in the same way the General Assembly did when it adopted the

Congressional Plan. *See* Imai Tr. 71:17–72:4, 74:14 (Ex. 2) (population balance); *id.* at 98:8–10,

100:16–101:2, 100:4–22 (compactness); *id.* at 83:9–17 ("strengths" assigned to redistricting

criteria). Dr. Imai also acknowledged that the ensemble plans used in his statewide simulation

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were themselves based on racial considerations, specifically the 45%-50% BVAP target that Dr.

Imai required for District 6. Imai Rep. 25 (Ex. 1); Imai Tr. 139:13–24, 140:9–20 (Ex. 2).

LEGAL STANDARD

A party offering expert testimony "has the burden of establishing that the pertinent

admissibility requirements are met by a preponderance of the evidence." Fed. R. Evid. 702

advisory committee's note (citing *Bourjaily v. United States*, 483 U.S. 171, 176 (1987)). "A

witness who is qualified as an expert by knowledge, skill, experience, training, or education may

testify in the form of an opinion or otherwise" if:

> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
>
> (b) the testimony is based on sufficient facts or data;
>
> (c) the testimony is the product of reliable principles and methods; and
>
> (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

These requirements are "exacting." *Weisgram v. Marley Co.*, 528 U.S. 440, 455 (2000).

Thus, as *Daubert* explains, Rule 702 imposes a "special gatekeeping obligation" on the district

court to ensure that an expert's testimony "rests on a reliable foundation" and "is relevant to the

task at hand." *Sardis v. Overhead Door Corp.*, 10 F.4th 268, 281 (4th Cir. 2021) (quoting *Nease*

v. Ford Motor Co., 848 F.3d 219, 229 (4th Cir. 2017)).

To be reliable, expert testimony must be "'based on scientific, technical, or other

specialized *knowledge* and not on belief or speculation,'" and "to the extent an expert makes

inferences based on the facts presented to him," the inferences must be "'derived using scientific

or other valid methods.'" *Id.* (quoting *Oglesby v. Gen. Motors Corp.*, 190 F.3d 244, 250 (4th Cir.

1999)). The reliability analysis focuses on the expert's "'principles and methodology'" and is

informed by four "guideposts" set out in *Daubert*: "(1) whether the expert's theory or technique 'can be (and has been) tested'; (2) 'whether the theory or technique has been subjected to peer review and publication'; (3) 'the known or potential rate of error' inherent in the expert's theory or technique; and (4) whether the expert's methodology is generally accepted in his field of expertise." *Id.* (quoting *Daubert*, 509 U.S. at 593–95). These guideposts are not exhaustive, however, and courts often consider additional factors, including "whether the expert's analysis leaves unexplained analytical gaps and whether the expert has reasonably accounted for alternative explanations." *Nucor Corp. v. Bell*, No. 2:06-CV-02972, 2008 WL 4442571, at *2 (D.S.C. Jan. 11, 2008); *see Cooper v. Smith & Nephew, Inc.*, 259 F.3d 194, 202 (4th Cir. 2001); *In re Pella Corp. Architect & Designer Series Windows Mktg., Sales Pracs. & Prod. Liab. Litig.*, 214 F. Supp. 3d 478, 494 (D.S.C. 2016). In short, because faulty expert testimony can be "quite misleading," *Daubert* aims to ensure that such testimony is based on "'intellectual rigor'" rather than the "ipse dixit" of the putative expert. *In re Lipitor Mktg., Sales Pracs. & Prod. Liab. Litig.*, 892 F.3d 624, 631–32 (4th Cir. 2018) (quoting *Kumho Tire Co.*, 526 U.S. at 152); *see also Holesapple v. Barrett*, 5 F. App'x 177, 179 (4th Cir. 2001).

Moreover, to be relevant, expert testimony must have "a valid scientific connection to the pertinent inquiry." *Sardis*, 10 F.4th at 281 (quoting *Belville v. Ford Motor Co.*, 919 F.3d 224, 232 (4th Cir. 2019)). "This ensures that the expert 'helps the trier of fact to understand the evidence or to determine a fact in issue.'" *Id.* (quoting *Nease*, 848 F.3d at 228).

ARGUMENT

The Court should exclude Dr. Imai's proposed testimony and evidence because Plaintiffs cannot show that they are sufficiently reliable or relevant to satisfy Rule 702, *Daubert*, and its progeny.

I.   DR. IMAI FAILED TO CONSIDER ALL TRADITIONAL RACE-NEUTRAL PRINCIPLES

Dr. Imai proposed testimony and evidence fail—and should be excluded—at the threshold because he "failed to consider all the traditional race-neutral principles that guide redistricting in South Carolina." *Backus*, 857 F. Supp. 2d at 563. Thus, Plaintiffs cannot show that his testimony is "based on sufficient facts or data" or "is the product of reliable principles and methods," or that Dr. Imai "reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702(b)–(d).

Indeed, Dr. Imai's proffered testimony lacks "intellectual rigor," *In re Lipitor Mktg., Sales Pracs. & Prod. Liab. Litig.*, 892 F.3d at 631–32, and does not satisfy the "exacting standards of reliability [it] must meet," *Sardis*, 10 F.4th at 299 (quoting *Weisgram*, 528 U.S. at 455). After all, his analysis does not "as a matter of logic ... eliminate other equally plausible causes" of the features of the Congressional Plan he observes and therefore is inadmissible. *Goodman v. Revco Disc. Drug Centers, Inc.*, No. 3:03-CV-2657, 2005 WL 6740407, at *4 (D.S.C. Aug. 18, 2005) (quoting *Oglesby v. Gen. Motors Corp.*, 190 F.3d 244, 250 (4th Cir. 1999)); *see Templeton v. Bishop of Charleston*, No. 2:18-CV-02003, 2021 WL 3419442, at *6 (D.S.C. Aug. 5, 2021); *In re Pella Corp.*, 214 F. Supp. 3d at 483–85, 490, 498; *In re Lipitor Mktg., Sales Pracs. & Prod. Liab. Litig.*, 185 F. Supp. 3d 761, 781–82 (D.S.C. 2016); *Bishop v. Triumph Motorcycles (Am.) Ltd.*, No. 3:18-CV-186, 2021 WL 4316810, at *8 (N.D.W. Va. Sept. 22, 2021); *Hall v. Thomas*, 753 F. Supp. 2d 1113, 1149 (N.D. Ala. 2010); *see also In re Wholesale Grocery Prod. Antitrust Litig.*, 946 F.3d 995, 1003 (8th Cir. 2019) (affirming exclusion of expert whose analysis "failed to incorporate economic realities").

Dr. Imai proposes to opine that "race played a significant role" in the Congressional Plan based on his algorithmic ensemble method. Imai Rep. 1–2, 7 (Ex. 1). But Dr. Imai admitted that

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his ensemble method does not consider the following traditional race-neutral principles used in redistricting in South Carolina:

- Preserving the cores of districts;

- Avoiding voting district splits;

- Preserving communities of interest;

- Keeping incumbents with their core constituents; and

- Partisan performance and politics.

Imai Tr. 103:20–106:22, 155:9–10, 181:16–18, 182:25–183:15 (Ex. 2); Imai Rep. 9–10 (Ex. 1); *see also Backus*, 857 F. Supp. 2d at 562–63 (identifying traditional districting principles); *Colleton Cnty*, 201 F. Supp. 2d at 647, 649 (same); Dkt. No. 323 at 12 (same).

Thus—like the putative expert this Court rejected in *Backus*—Dr. Imai's proposed testimony is "problematic," "incomplete," and "unconvincing," and he is "unable to provide the Court a reliable opinion that the General Assembly subordinated traditional race-neutral principles to race." *Backus*, 857 F. Supp. 2d at 562–63. The Court should exclude Dr. Imai's proposed testimony for this reason alone. *See id.*; *see also* Fed. R. Evid. 702; *In re Lipitor Mktg., Sales Pracs. & Prod. Liab. Litig.*, 892 F.3d at 631–32; *Sardis*, 10 F.4th at 299.

II. DR. IMAI DID NOT RELIABLY ANALYZE THE RACE-NEUTRAL CRITERIA HE DID CONSIDER

Dr. Imai's failure to consider all traditional race-neutral principles alone warrants exclusion of his testimony. *See supra* Part I. But Dr. Imai's testimony should be excluded on another basis as well: he did not reliably analyze the traditional race-neutral principles he did consider. Thus, his testimony is not "based on sufficient facts or data" or "the product of reliable principles and methods," and Dr. Imai did not "reliably appl[y] the principles and methods to the facts of the case." Fed. R. Evid. 702(b)-(d).

At the threshold, Dr. Imai's simulation analysis is not reliable because it does not even purport to generate a representative sample of the plans that were available to the General Assembly—as Dr. Imai freely admits.   Dr. Imai has stated in a peer-reviewed article that "[u]nfortunately, despite the growing popularity of simulation methods in recent redistricting cases, there exists little empirical evidence that these methods can in practice generate a representative sample of all possible redistricting maps under the statutory guidelines and requirements." B. Fifield, K. Imai, J. Kawahara, and C. Tenney, "The Essential Role of Empirical Validation in Legislative Redistricting Simulation," Statistics & Public Policy 7:1, 67 (2020) (Ex. 6).   According to Dr. Imai, "[a] real-world redistricting process is complex" and involves "[d]istinct geographical features and diverse legal requirements . . . in each state." *Id.*   "It is far from clear how these factors interact with different simulation methods" offered by academics and purported experts in redistricting cases. *Id.*   And "if there exists no scientific evidence that these simulation methods can actually yield a representative sample of valid redistricting plans, we cannot rule out the possibility that the comparison of a particular plan against sampled plans yields misleading conclusions about gerrymandering." *Id.* at 53.

Even if Dr. Imai's simulation analysis could survive his own criticisms, his analysis of the traditional race-neutral factors in the Congressional Plan he did consider suffers from major "analytical gap[s]," lacks a reliable foundation, and is inadmissible for at least five reasons. *In re Pella Corp.*, 214 F. Supp. 3d at 494; *see Nucor Corp.*, 2008 WL 4442571, at *2. *First*, as Dr. Imai acknowledged, the Senate Guidelines specifically direct that "a congressional districting plan should not have population deviations greater than one person." Senate Redistricting Guidelines I.A.2 (Ex. 3); *see* Imai Tr. 72:4, 73:5, 74:4 (Ex. 2). But Dr. Imai programmed the algorithm to permit population deviations of up to 0.1% percent, or approximately 730 people, in his ensemble

plans. *See* Imai Rep. 8–9 & n.3 (Ex. 1); Imai Tr. 71:17–72:4, 74:14 (Ex. 2). *None* of those plans comports with the Senate Guidelines or would have been adopted by the Senate. *See* Senate Redistricting Guidelines I.A.2 (Ex. 3). Indeed, Dr. Imai's failure to consider population balance in accordance with the "the guidelines and criteria that the General Assembly devised" is "[p]articularly troubling" and prevented him from properly "understanding" the General Assembly's redistricting decisions. *Backus*, 857 F. Supp. 2d at 562.

Second, Dr. Imai used two mathematical measures to assess the compactness of the Congressional Plan and the ensemble plans. *See* Imai Rep. 25–26 (Ex. 1); Imai Tr. 98:8–10 (Ex. 2); *see also id.* at 100:19 ("[E]veryting I do is mathematical."). But he wholly ignored non-mathematical standards of compactness, despite admitting that the House Redistricting Guidelines expressly state that compactness "should *not* be judged based upon any mathematical, statistical, or formula-based calculation or determination" and "*should* be judged in part by the configuration of prior plans." Imai Tr. 99:22–100:3 (Ex. 2) (emphasis added) (quoting House Redistricting Guidelines VI (Ex. 4)); *see also id.* at 98:8–10, 100:23–101:2. Dr. Imai failed to justify this approach. He briefly suggested that his ensemble method "indirectly" considers non-mathematical compactness by ensuring that the compactness of ensemble plans "is comparable to the enacted plan." *Id.* at 100:4–22. But this comparison, he ultimately admitted, remained "based on the mathematical measures," not "the shape of the district." *Id.* at 100:16–22. Thus, as above, Dr. Imai's "troubling" failure to consider compactness in accordance with the "the guidelines and criteria that the General Assembly devised" prevented him from properly "understanding" the General Assembly's redistricting decisions. *Backus*, 857 F. Supp. 2d at 562.

Third, Dr. Imai programmed the algorithm to assign various "strengths" to the principles he considered such as compactness, incumbency pairing, county and municipality splits, and

BVAP; the "strengths" served to "discourage[] or encourage[]" the types of plans generated by algorithm. Imai Tr. 80:13–20 (Ex. 2); *see* Imai Rep. 25 (Ex. 1). But there was nothing reliable about this assignment of strengths, and Dr. Imai had no scientifically justified basis for it. He simply ran simulations with different strength values to "see … the compactness [and other features] of the simulated plans" and then settle on strengths that produced maps that (in his view) satisfied appropriate "goals and criteria." Imai Tr. 81:2, 82:9–14 (Ex. 2).

Moreover, instead of justifying this ad hoc method, Dr. Imai *admitted* that it relied on strengths that did not approximate—and, indeed, had no connection to—the strengths or weights the General Assembly actually assigned to various traditional districting principles when it drew the Congressional Plan. *Id.* at 83:9–12; *see id.* at 83:15–17 ("[M]y constraints … are not designed to mimic the way that the map drawers created these maps."). According to Dr. Imai, "[h]ow the map drawer drew the enacted plan doesn't affect my analysis." *Id.* at 58:16–17. Thus, Dr. Imai simply assigned the strengths that he deemed appropriate, not strengths supported by any scientific method or that would have been probative of the General Assembly's action in adopting the Congressional Plan. This is not a "reliable principle[] [or] method[]." Fed. R. Evid. 702(c).

Fourth, Dr. Imai *disagreed* that his simulation plans "have to comply with legal requirements for redistricting plans" in order to be "instructive." Imai Tr. 67:1–4 (Ex. 2). Accordingly, he did not direct the algorithm to ensure that the ensemble plans were legal or attempt to account for legality in any other way. *Id.* at 67:20–68:5. In fact, he acknowledged that he "didn't do anything to try to determine whether [his] plans were legal." *Id.* at 68:3–5. This "law-free" approach, however, has never been "generally accepted" via "peer review and publication." *See Daubert*, 509 U.S. at 593–95. Quite the opposite: Dr. Imai admitted that his approach directly conflicted with his *own* prior studies, which dictate that effective simulation analysis "'*must*'

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'incorporate realistic legal constraints.'" Imai Tr. 36:10–22 (Ex. 2) (emphasis added) (quoting K.

Imai et al, Sequential Monte Carlo for Sampling Balanced and Compact Redistricting Plans (June

14, 2022) (Ex. 5)); *see McEwen v. Baltimore Washington Med. Ctr. Inc.*, 404 F. App'x 789, 791

(4th Cir. 2010) (unpublished) (upholding exclusion of experts who "failed to meaningfully account

for … literature at odds with their testimony"); *In re Lipitor Mktg., Sales Pracs. & Prod. Liab.

Litig.*, 185 F. Supp. 3d 761, 781–82 (D.S.C. 2016) (collecting similar cases).

     Fifth, and relatedly, Dr. Imai directed the algorithm to racially gerrymander the ensemble

plans used in his statewide simulation. A redistricting plan is an unconstitutional racial

gerrymander when it "subordinate[s] traditional race-neutral districting principles . . . to racial

considerations" without satisfying strict scrutiny. *Miller v. Johnson*, 515 U.S. 900, 916 (1995).

Thus, in other words, a plan may not subordinate traditional principles to race in the absence of

constitutionally sufficient justification. *See id.* Yet the ensemble plans do just that, because Dr.

Imai set a constraint *requiring* the plans to achieve a specific BVAP target in District 6 (45–50%)

while ignoring numerous race-neutral criteria. Imai Rep. 25 (Ex. 1); Imai Tr. 139:13–24, 140:9–

20 (Ex. 2); *see supra* Part I. Dr. Imai admitted that his BVAP target was a "significant" factor in

how ensemble plans were drawn, Imai Tr. 142:8–24 (Ex. 2), which is *precisely* his criticism of the

Congressional Plan, Imai Rep. 4 (Ex. 1). Dr. Imai even admitted that his statewide simulation did

not "compromise" on his BVAP target. Imai Tr. 139:25–140:24 (Ex. 2). That is the essence of a

racial gerrymander. *See Shaw v. Hunt*, 517 U.S. 899, 907 (1996) (racial gerrymander exists where

"race was the criterion that . . . could not be compromised"); *Cooper v. Harris*, 137 S. Ct. 1455,

1469 (2017) (finding racial gerrymander where "racial target had a direct and significant impact"

on how the challenged lines were drawn).

Put another way, without ever attempting to satisfy strict scrutiny, Dr. Imai generated ensemble plans based on the "racial consideration" of his BVAP target that predominated over the "race-neutral" criteria that he ignored—the very definition of racial gerrymanders prohibited by both the Constitution and the General Assembly's redistricting guidelines. *Miller*, 515 U.S. at 916; *see* Senate Redistricting Guidelines (Ex. 3); House Redistricting Guidelines (Ex. 4). Because those plans could not have been adopted by the General Assembly, they do not provide a valid standard of comparison for the Congressional Plan. This fundamental flaw taints Dr. Imai's entire analysis and alone requires exclusion of his testimony. *See* Fed. R. Evid. 702(b)–(d); *Backus*, 857 F. Supp. 2d at 562; *see also Walker v. Contra Costa Cnty.*, No. 03-C-3723, 2006 WL 3371438, at *4–5 (N.D. Cal. Nov. 21, 2006) (excluding "discriminatory intent" expert because she "misunderst[ood]" the governing law); *Exela Pharma Scis., LLC v. Eton Pharms., Inc.*, No. 20-CV-0365, 2022 WL 806524, at *3 (D. Del. Feb. 8, 2022) (collecting cases excluding expert reports "premised on a misunderstanding of the law").

III. PLAINTIFFS CANNOT SHOW THAT DR. IMAI'S TESTIMONY IS RELEVANT

Plaintiffs' inability to establish reliability alone warrants the exclusion of Dr. Imai's testimony. But the testimony should be excluded for another reason: Plaintiffs cannot show that Dr. Imai's analysis is "relevant to the task at hand." *Sardis*, 10 F.4th at 281. In particular, Plaintiffs cannot demonstrate that Dr. Imai's analysis has a "valid scientific connection" to whether the General Assembly committed racial gerrymandering or intentional discrimination in enacting the Congressional Plan. *Id.*

As noted, Dr. Imai himself has suggested that simulation analysis "can[not] actually yield a representative sample of valid redistricting plans" but instead "yields misleading conclusions about gerrymandering." B. Fifield, K. Imai, J. Kawahara, and C. Tenney, "The Essential Role of Empirical Validation in Legislative Redistricting Simulation," Statistics & Public Policy 7:1, 53

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(2020) (Ex. 6). In all events, Dr. Imai admitted that the simulation analysis he used in this case attempts to control for only some race-neutral districting principles, namely contiguity, population balance, mathematical compactness, avoiding incumbent pairing, and preserving counties and municipalities. *See supra* at 3. In other words, he ignores other traditional race-neutral principles—and fails reliably to analyze even those principles he considered. *See supra* Parts I–II. Thus, to the extent that Dr. Imai's simulation analysis is reliable at all, it at most compares the Congressional Plan to the universe of potential plans that the General Assembly hypothetically might have considered if it sought to adhere to only the several curated districting principles that Dr. Imai considered in the way Dr. Imai considered them. But that is not relevant here, because no evidence suggests that the General Assembly followed only those principles; to the contrary, the General Assembly undisputedly adhered to numerous other race-neutral principles. *See* Dkt. No. 323 at 16–20. Dr. Imai's analysis thus lacks a "valid scientific connection" to the General Assembly's actual redistricting actions in the Congressional Plan. *Sardis*, 10 F.4th at 281.

Put another way, Dr. Imai's analysis is at most relevant to understanding hypothetical circumstances that do not remotely resemble the actual circumstances surrounding the enactment of the Congressional Plan. This analysis is not relevant to understanding the Congressional Plan—the "pertinent inquiry" here—and therefore it should be excluded. *Id.*

CONCLUSION

The Court should exclude the testimony of Dr. Imai.

September 2, 2022   Respectfully submitted,

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